To Do Notes:

Redo the overall density and qq plots. They need better labelling and titles.

In Analysis Page 18:

Since there is a significant difference in the medians between 2019 and 2020, further research between the two years using an additional independent variable can show further details into the overall impact DECC’s continuity decisions had on the call handling times between the two years and if there are specific areas to analyze within 2020 to view that impact at a more granular level. Since the reporting currently available to DECC is compiled and submitted weekly, further research into the differences between weeks can show those impacts most clearly. In the tables section of this analysis, there are tables of medians for comparison of the four computed variables between the two years included in the analysis. In three of the four tables, there is a noticeable separation of the medians weekly between 2019 and 2020 starting around week 12. Per the DECC Systems Administrator, the late Robert Bloom, in an interview with FirstNet (Stone 2020), the use of remote units for call takers working from home taking non-emergency calls started on March 06, 2020. Being at the end of Week 10, the effects can start being monitored with Week 11. With the remote call takers restricted to non-emergency calls, this removed the same staff from taking inbound 911 calls at the outset. The three computed variables which demonstrate a greater separation all center around the call taking procedures. The remaining variable which doesn’t show the same degree of separation concerns the radio dispatch procedures. In DECC’s workflows, the Fire and EMS services utilize algorithmic assistance for the assignment of resources and the Police services use the algorithmic recommendations as a starting guide. Because of the use of the computer assistance for assignment, the dispatch times are much lower and more consistent between the two years.

Combining the observation of the median separations with Kruskal-Wallis and Scheirer-Ray-Hare tests, demonstrates the significance the continuity measures had on call handling weekly between 2019 and 2020.

<<Tables inserted here>>

As the p-values for each computed variable are recorded as p < 0.05, the null hypothesis can be rejected; the weekly medians between years in the data set do come from significantly different populations. After this, Dunn tests were run against the Week\_No variable to determine which weeks exhibited statistically significant medians within all 53 weeks. Due to the size of the output result set from the Dunn test. That data will be included as a separate spreadsheet with this analysis. That spreadsheet consists of four worksheets, one for each of the computed variables. In brief, week 12 shows significant differences with most of the remaining weeks. In contrast, weeks 13 through 15 do not show any significant differences with the other weeks, while maintaining a similar separation as to weeks surrounding them. Approximately half of the week combinations in the Dunn test show some measure of significance and confirm there are differences between population medians from the same week number in the different years. With these results, analysis can now be shifted into 2020 to examine the impact of continuity efforts on different independent variables, such as the agency or the priority level of the service call.